EXHIBIT Q

Analysis of Infringement of U.S. Patent No. 8,676,538 by Silicon Laboratories, Inc.
(Based on Public Information Only)

Plaintiff Ocean Semiconductor LLC ("Ocean Semiconductor"), provides this preliminary and exemplary infringement analysis with respect to infringement of U.S. Patent No. 8,676,538, entitled "ADJUSTING WEIGHTING OF A PARAMETER READING TO A FAULT DETECTION BASED ON A DETECTED FAULT" (the "'538 patent) by Silicon Laboratories, Inc. ("SILABS"). The following chart illustrates an exemplary analysis regarding infringement by Defendant SILABS' semiconductor products, systems, devices, components, integrated circuits, and products containing such circuits, fabricated or using PDF Solutions, Inc.'s ("PDF Solutions") platforms, and/or framework, including PDF Solutions' software and APC system, including the Exensio platform hardware and/or software (collectively, "Exensio") and/or other APC system and platform hardware and/or software. Such products include, without limitation, wireless products (e.g., EFR32XG2X family), internet of things products (e.g., EFM8BB10F8G-QFN20, EFM8BB10F2A-QFN20, EFM8BB10F2G-QFN20, EFM8BB10F2I-QFN20, EFM8BB10F4A-QFN20, EFM8BB10F4G-QFN20, EFM8BB10F4I-QFN20, EFM8BB10F8A-QFN20, EFM8BB10F8G-QSOP24, EFM8BB10F8G-SOIC16, EFM8BB10F8I-QFN20, EFM8BB10F8I-QSOP24, EFM8BB10F8I-SOIC16, EFM8BB21F16A-QFN20, EFM8BB21F16G-QFN20, EFM8BB21F16G-QSOP24, EFM8BB21F16I-QFN20, EFM8BB21F16I-QSOP24, EFM8BB22F16A-QFN28, EFM8BB22F16G-QFN28, EFM8BB22F16I-QFN28, EFM8BB31F16A-4QFN24, EFM8BB31F16A-5QFN32, EFM8BB31F16G-QFN24, EFM8BB31F16G-QFN32, EFM8BB31F16G-QFP32, EFM8BB31F16G-QSOP24, EFM8BB31F16I-4QFN24, EFM8BB31F16I-5QFN32, EFM8BB31F16I-QFN24, EFM8BB31F16I-QFN32, EFM8BB31F16I-QFP32, EFM8BB31F16I-QSOP24, EFM8BB31F32A-4QFN24, EFM8BB31F32A-5QFN32, EFM8BB31F32G-QFN24, EFM8BB31F32G-QFN32, EFM8BB31F32G-QFP32, EFM8BB31F32G-QSOP24, EFM8BB31F32I-4QFN24, EFM8BB31F32I-5QFN32, EFM8BB31F32I-QFN24, EFM8BB31F32I-QFN32, EFM8BB31F32I-QFP32, EFM8BB31F32I-QSOP24, EFM8BB31F64A-4QFN24, EFM8BB31F64A-5QFN32, EFM8BB31F64G-QFN24, EFM8BB31F64G-QFN32, EFM8BB31F64G-QFP32, EFM8BB31F64G-QSOP24, EFM8BB31F64I-4QFN24, EFM8BB31F64I-5QFN32, EFM8BB31F64I-QFN24, EFM8BB31F64I-QFN32, EFM8BB31F64I-QFP32, EFM8BB31F64I-QSOP24), infrastructure products (e.g., Si5332A-GM1, Si5332A-GM2, Si5332A-GM3, Si5332B-GM1, Si5332B-GM2, Si5332B-GM3, Si5332C-GM1, Si5332C-GM2, Si5332C-GM3, Si5332D-GM1, Si5332D-GM2, Si5332D-GM3, Si5332E-GM1, Si5332E-GM2, Si5332E-GM3, Si5332F-GM1, Si5332F-GM2, Si5332F-GM3, Si5332G-GM1, Si5332G-GM2, Si5332G-GM3, Si5332H-GM1, Si5332H-GM2, Si5332H-GM3, Si5332A-GM1, Si5332A-GM2, Si5332A-GM3, Si5332B-GM1, Si5332B-GM2, Si5332B-GM3, Si5332C-GM1, Si5332C-GM2, Si5332C-GM3, Si5332D-GM1, Si5332D-GM2, Si5332D-GM3, Si5332E-GM1, Si5332E-GM2, Si5332E-GM3, Si5332F-GM1, Si5332F-GM2, Si5332F-GM3, Si5332G-GM1, Si5332G-GM2, Si5332G-GM3, Si5332H-GM1, Si5332H-GM2, Si5332H-GM3), broadcast products (e.g., Si2160, Si2162, Si2164, Si2180, Si2181, Si2182, Si2183), access products (e.g., Si3000, Si3402-GM, Si3404-GM, Si3406-GM, Si34062-GM, Si3462-GM, Si3471A-IM, microcontrollers (e.g., Tiny Gecko series, EFM8 Busy Bee), buffers (e.g., Si5330x), oscillators (e.g., Si54x), clock generators (e.g., Si534x), jitter attenuators (e.g., Si539x), synchronous ethernet (e.g., Si5383/48/88), isolation products (e.g., Si86xx, Si87xx, Si88xx, Si823x, Si827x, Si828x, Si823Hx, Si890x, Si892x, Si82Hx, Si838x, Si834x, and Si875x), interface products (e.g., ethernet controllers, LC controllers, bridges), timing products (e.g., buffers, clock generators, oscillators, and network synchronizers), sensors (e.g., humidity, magnetic, optical, temperature, and biometric), audio & radio products (e.g., automotive tuners, and radios), power products (e.g., power management ICs, powered drivers, and PSE controllers), TV & video products (e.g., digital demodulators and TV tuners), modem & DAA products (e.g., voice modems), voice products (e.g., codec, proSLICs, and DAA), power over ethernet devices (e.g., power source equipment and powered device ICs)), and similar systems, products, devices, and integrated circuits (collectively, the "'538 Infringing Instrumentalities").

The analysis set forth below is based only upon information from publicly available resources regarding the '538 Infringing Instrumentalities, as SILABS has not yet provided any non-public information.

Unless otherwise noted, Ocean Semiconductor contends that SILABS directly infringes the ’538 patent in violation of 35 U.S.C. § 271(g) by using, selling, and/or offering to sell in the United States, and/or importing into the United States, the ’538 Infringing Instrumentalities. The following exemplary analysis demonstrates that infringement. Unless otherwise noted, Ocean Semiconductor further contends that the evidence below supports a finding of indirect infringement under 35 U.S.C. § 271(b) in conjunction with other evidence of liability.

Unless otherwise noted, Ocean Semiconductor believes and contends that each element of each claim asserted herein is literally met through SILABS’ provision or importation of the ’538 Infringing Instrumentalities. However, to the extent that SILABS attempts to allege that any asserted claim element is not literally met, Ocean Semiconductor believes and contends that such elements are met under the doctrine of equivalents. More specifically, in its investigation and analysis of the ’538 Infringing Instrumentalities, Ocean Semiconductor did not identify any substantial differences between the elements of the patent claims and the corresponding features of the ’538 Infringing Instrumentalities, as set forth herein. In each instance, the identified feature of the ’538 Infringing Instrumentalities performs at least substantially the same function in substantially the same way to achieve substantially the same result as the corresponding claim element.

Ocean Semiconductor notes that the present claim chart and analysis are necessarily preliminary in that Ocean Semiconductor has not obtained substantial discovery from SILABS nor has SILABS disclosed any detailed analysis for its non-infringement position, if any. Further, Ocean Semiconductor does not have the benefit of claim construction or expert discovery. Ocean Semiconductor reserves the right to supplement and/or amend the positions taken in this preliminary and exemplary infringement analysis, including with respect to literal infringement and infringement under the doctrine of equivalents, if and when warranted by further information obtained by Ocean Semiconductor, including but not limited to information adduced through information exchanges between the parties, fact discovery, claim construction, expert discovery, and/or further analysis.

<table>
<tr><th>USP 8,676,538</th><th>Infringement by the ’538 Accused Instrumentalities</th></tr>
<tr><td>1. A method comprising: performing in a computer a fault detection analysis relating to a processing of a workpiece;</td><td>To the extent that the preamble of Claim 1 is a limitation, PDF Solutions’ Exensio performs in a computer a fault detection analysis relating to a processing of a workpiece.

For example, Exensio includes a software module for Fault Detection and Classification (FDC), as shown below:

“Exensio –Control is a scalable Fault Detection and Classification (FDC) software solution that controls semiconductor manufacturing equipment and processes. Exensio-Control allows manufacturers to accurately detect and identify process or tool problems that arise during production, in real-time.

• Wide data acquisition capabilities — Exensio –Control acquires all the equipment and logistics data for FDC analysis, in any format and from any source (Interface A, databases, SECS/HSMS, automation, files, etc.)
• Advanced analysis capabilities — Exensio –Control includes signal transformation and summarization, univariate SPC, multivariate fault detection and classification functions, plus meta-analysis based on indicators. In addition, Exensio –Control provides off-line and historical analysis capabilities to test FDC control strategies before deployment.
• Real-time alarms and events management — Exensio –Control centralizes and assesses events and alarms to trigger the appropriate action. Equipment alarms and events are overlaid with trace and univariate SPC charts and can be analyzed in conjunction with FDC alarms. … ”

See Exensio Control, available at http://www.pdf.com/Exensio-Control (last visited Oct. 12, 2020).

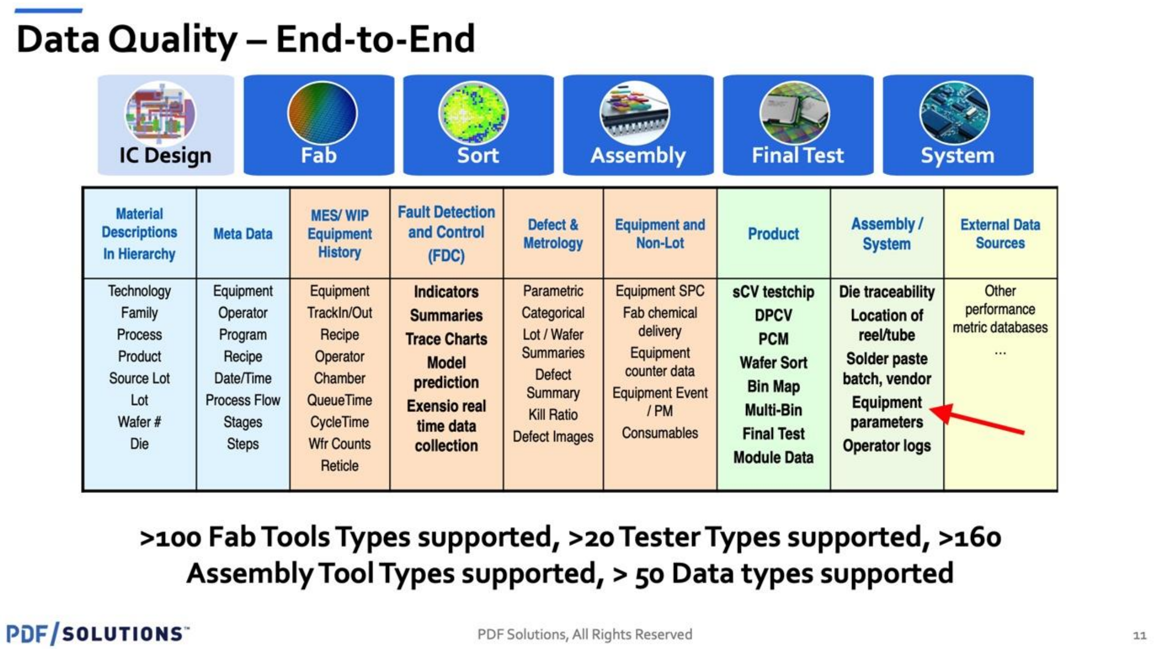
As a further example, the Exensio platform is “designed to enable real-time rapid diagnosis and understanding of key manufacturing and test metrics during both inline and end-of-line wafer processing,” and “enable[s] predictive and proactive optimization decisions for process control, process adjustments, PM scheduling, tool corrective actions, wafer dispatching, and wafer level and final test.” See PDF Solutions Inc.’s Form 10-K (filed Mar. 10, 2020) at 6, available at http://ir.pdf.com/static-files/fb23407a-dfbc-489f-adb1-ac54e83102ad (last visited Oct. 12, 2020) (“2020 Form 10-K”).</td></tr>
<tr><td>determining in a said computer a relationship of a parameter relating to said fault detection analysis to a detected fault;</td><td>Exensio determines in the computer a relationship of a parameter relating to said fault detection analysis to a detected fault.

As an example, the Exensio System is adapted to receive monitor and identify a fault condition covering various process parameters of the processing tool:

“• Exensio Control – This software provides failure detection and classification (or FDC) capabilities for monitoring, alarming and control of manufacturing tool sets. These capabilities include proprietary data collection and analysis of tool sensor trace data and summary indicators designed to rapidly identify sources of process variations and manufacturing excursions. When used together with Exensio Yield and related modules, the accretive data mining and correlation capabilities are designed to enable identification of tool level sources of yield loss and process variation that impact end of line product yield, performance and reliability.”</td></tr>
</table>

See 2020 Form 10-K at 7.

As a further example, Exensio collects data related to, e.g., equipment parameters, as shown below:



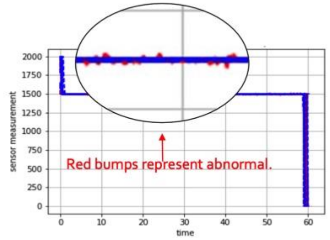
See S1.2—Exensio Platform, 16th Annual PDF Solutions Users Conference (Oct. 15, 2019) at 11, *available at* http://www.pdf.com/upload/File/Investors/PUG2019/S1.2%20PUG2019_ExensioPlatform_SaidAkar.pdf ("S1.2—Exensio Platform Presentation") (last visited Apr. 30, 2020) (annotated).

As a further example, Exensio uses algorithms and a Single Machine Learning Pipeline to model processes for fault detection and classification, as shown below:

FDC – RESULTS on Large Volume of Production Wafers Across Multiple Process Steps

Process Step	True Positive Rate (actual = normal, prediction = normal)	True Negative Rate (actual = abnormal, prediction = abnormal)
Process Step 1	100.00%	100.00%
Process Step 2	99.82%	99.90%
Process Step 3	97.12%	99.38%
Process Step 4	99.86%	99.23%

- ❑ Single Machine Learning Pipeline produced accurate model for multiple processes
- ❑ No user modification of algorithm settings from process to process
- ❑ Many tools and recipes per process step
- ❑ Test results on a large volume of advanced device node production wafers

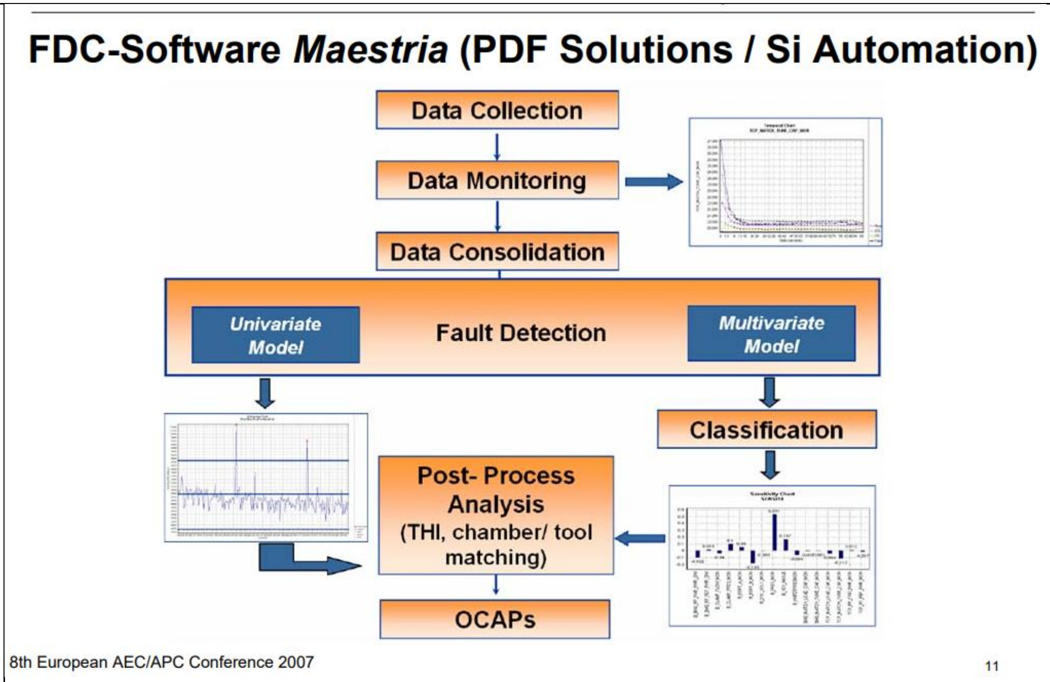


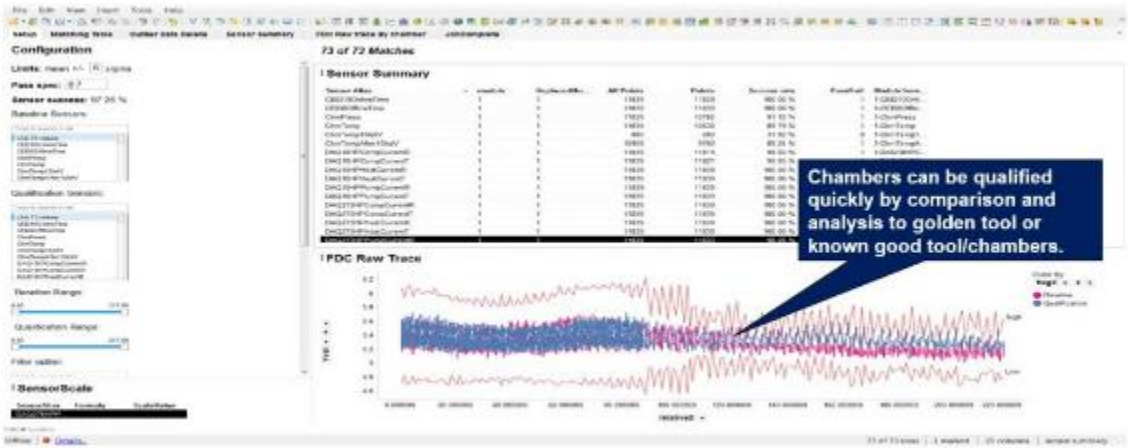
- ✓ Data Science enabled in the tool – you don't have to be a data scientist to set it up or maintain it
- ✓ 1000's of virtual experts – enabled by AI
- ✓ Better IP security – distributed knowledge remains in the tool itself

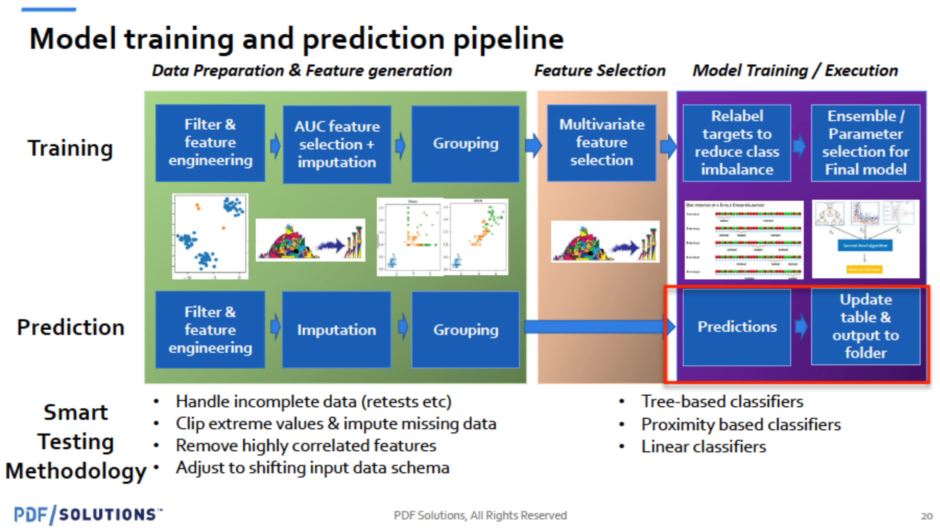
PDF/SOLUTIONS™

See S1.3— Machine Learning in Exensio, 16th Annual PDF Solutions Users Conference (Oct. 15, 2019) at 23, *available at* http://www.pdf.com/upload/File/Investors/PUG2019/S1.3%20PUG2019_AISolutions_JeffDavid.pdf ("S1.3—Machine Learning in Exensio") (last visited Oct. 12, 2020).

As a further example, the Maestria FDC platform produced by PDF Solutions performs fault detection and classification using univariate and multivariate models, as shown below:

	 *See* "Usage of Hercules inside commercial FDC System Maestria," ("Hercules Maestria Presentation") at 11, *available at* https://www.plasmetrex.com/ref/workshop/2007/foeh.pdf (last visited Oct. 12, 2020).
adjusting in said computer a weighting of said parameter based upon said relationship of said parameter to said detected fault; and	Exensio adjusts in the computer a weighting of said parameter based upon said relationship of said parameter to said detected fault. For example, Exensio uses "[o]ne-step parameter screening with advanced diagnostics to drive response correlations to feedback to tool control (dynamic SPC) for yield, device parametrics, and metrology" *See* https://www.pdf.com/products/exensio-analytics-platform/modules/process-control/ (last visited Oct. 12, 2020). As a further example, Exensio performs "[a]utomated detection of excursion events with FDC tool sensor level diagnostics and drilldown to perform process and metrology shifts, parametric drift, preventative maintenance and consumable event detection." *See id.* As a further example, Exensio "[i]dentifies what is a nuisance defect and what is a critical defect and adjust[s] accordingly," as shown below: "Find the Source of Critical Defects Quickly and Easily

	Exensio Foundry collects all fab sensor data together in a common semantic database making it simple to connect data together to drive actionable insights. Defect wafer maps from the fab can be linked to actual defect images. Identify which equipment causes more defects. Identify what is a nuisance defect and what is a critical defect and adjust sensitivity accordingly. That is the power of Exensio Foundry." *See* https://www.pdf.com/products/exensio-analytics-platform/products/exensio-foundry/ (last visited Oct. 12, 2020). As a further example, one of PDF Solutions' own patents discloses "adjust[ing] the process parameters of the established fabrication process" in response to the identification of systematic defects. *See* U.S Patent 7,739,065 at 4:65-5:5.
performing in said computer the fault detection analysis relating to processing of a subsequent workpiece using said adjusted weighting.	Exensio performs in the computer fault detection analysis relating to processing of a subsequent workpiece using adjusted weighting. For example, Exensio's FDC analysis uses "comparison and analysis to a golden tool or known good tool/chambers," as shown below:  *See* https://www.pdf.com/products/exensio-analytics-platform/modules/process-control/ (last visited Oct. 12, 2020). As another example, the Exensio System adjusts processing of the processing tool by updating recipe tables and processing/tool parameters in response to the presence of a fault condition:



See PDF Solutions, "Cognitive End to End Analytics for Semiconductor Manufacturing: A Smart Testing Application" (Oct. 30, 2019) at 20, available at http://liralingerie.com/nldfpd/end-to-end-analytics.html (Last visited Apr. 30, 2020) ("Cognitive End to End Analytics Presentation") (annotated).

As a further example, the Maestria FDC system also produced by PDF Solutions "focuses on real-time (on-line) detection of manufacturing equipment parameter excusion," as shown below:

"The PDF Solutions maestria® FDC tool focuses on real-time (on-line) detection of manufacturing equipment parameter excursion and also provides valuable data for further analysis. The data is collected, analyzed and stored in a mixed architecture: distributed for local efficient fault detection, and centralized for fab wide data consolidation and correlation with other product data."

See "Bosch Selects FDC Solution from PDF Solutions," *available at* https://www.nbcnews.com/id/wbna40698254 (last visited Oct. 12, 2020). *See also* maestria® Support & Maintenance Terms, *available at* https://www.pdf.com/wp-content/uploads/2020/03/maestria-Maintenance-and-Support-2008-0731.pdf (last visited Oct. 12, 2020).